Bellwork Alg 2 Tuesday, March 24, 2020

1. Solve. Round to the nearest hundredth. $16^{x-2} = 2^{2x}$

2. In $\triangle PQR$, R is the right angle. Given $\cos P = \frac{144}{145}$ write the other five trig ratios of P.

$\sin P =$ $\tan P =$

$\sec P =$ $\csc P =$

$\cot P =$

ANSWERS

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1. Solve. Round to the nearest hundredth. $16^{x-2} = 2^{2x}$

$(2^4)^{x-2} = 2^{2x}$

$2^{4(x-2)} = 2^{2x}$

$4(x-2) = 2x$

$4x - 8 = 2x$

$-2x \quad -2x$

$2x - 8 = 0$

$+8 \quad +8$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$

2. In $\triangle PQR$, R is the right angle. Given $\cos P = \frac{144}{145}$ write the other five trig ratios of P.

SOH CAH TOA

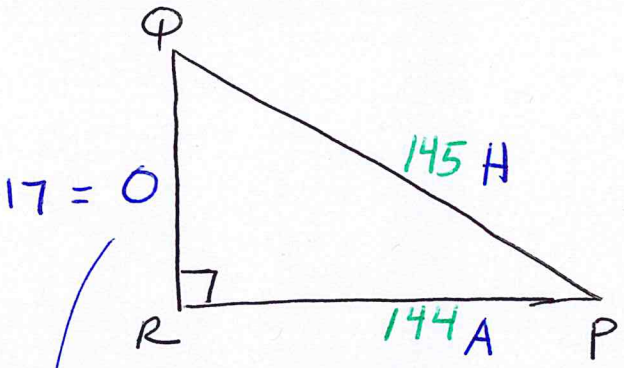
$\sin P = \frac{O}{H}$ $\quad \sin P = \frac{17}{145}$

$\tan P = \frac{O}{A}$ $\quad \tan P = \frac{17}{144}$

$\sec P = \frac{1}{\cos P} = \frac{1}{\frac{144}{145}}$ $\quad \sec P = \frac{145}{144}$

$\csc P = \frac{1}{\sin P} = \frac{1}{\frac{17}{145}}$ $\quad \csc P = \frac{145}{17}$

$\cot P = \frac{1}{\tan P} = \frac{1}{\frac{17}{144}}$ $\quad \cot P = \frac{144}{17}$



- $\cos P = \frac{144}{145}$ → ADJ to P, → HYP

- $x^2 + 144^2 = 145^2$

$x^2 = 145^2 - 144^2$

$x = \sqrt{145^2 - 144^2}$

$x = 17$